

**THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

CARDWARE INC.	§	
	§	
	§	
v.	§	CASE NO. 2:22-CV-141-JRG-RSP
	§	
SAMSUNG ELECTRONICS CO. LTD. and	§	
SAMSUNG ELECTRONICS AMERICA,	§	
INC.	§	
	§	

CLAIM CONSTRUCTION
MEMORANDUM AND ORDER

On August 8, 2023, the Court held a hearing to determine the proper construction of disputed terms in United States Patents No. 10,339,520, 10,628,820, 10,810,579, 11,176,538, and 11,328,286. Before the Court is the Opening Claim Construction Brief (Dkt. No. 103, Ex. A) filed by Plaintiff CardWare Inc. (“Plaintiff” or “CardWare”). Also before the Court is the Responsive Claim Construction Brief (Dkt. No. 104) filed by Defendants Samsung Electronics Co. Ltd. and Samsung Electronics America, Inc. (collectively, “Defendants” or “Samsung”) as well as Plaintiff’s reply (Dkt. No. 109). Further before the Court are the parties’ Patent Rule 4-3 Joint Claim Construction and Prehearing Statement (Dkt. No. 80) and the parties’ Patent Rule 4-5(d) Joint Claim Construction Chart (Dkt. No. 110). Having reviewed the arguments made by the parties at the hearing and in their claim construction briefing, having considered the intrinsic evidence, and having made subsidiary factual findings about the extrinsic evidence, the Court hereby issues this Claim Construction Memorandum and Order. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (en banc); *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841 (2015).

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I. BACKGROUND

Plaintiff alleges infringement of United States Patents No. 10,339,520 (“the ’520 Patent,” Ex. 1), 10,628,820 (“the ’820 Patent,” Ex. 2), 10,810,579 (“the ’579 Patent,” Ex. 3), 11,176,538 (“the ’538 Patent,” Ex. 4), and 11,328,286 (“the ’286 Patent,” Ex. 5). Plaintiff submits: “The Asserted Patents relate to payment technology in which traditional, fixed payment information

printed on a traditional credit card is never used in a transaction. Instead, traditional, fixed payment information is, in some embodiments, replaced by a combination of static and dynamically generated information with built-in limitations on use that render the information useless should it be compromised and end up in the hands of a third-party. The Asserted Patents claim various iterations and embodiments of this secure payment technology, using limited-use numbers, all within the framework of the existing payment infrastructure.” Dkt. No. 103, Ex. A at 2–3.

The ’520 Patent, titled “Multi-Functional Credit Card Type Portable Electronic Device,” issued on July 2, 2019, and bears an earliest priority date of March 17, 2014. The Abstract of the ’520 Patent states:

An embodiment includes a credit card device capable of generating a programmed magnetic field of alternating polarity based on a speed of a card swipe, and methods for constructing the device for the purpose of emulating a standard credit card. An apparatus is described to allow said device to emulate behavior of a credit card when used in electronic credit card readers. Additionally methods are described to allow user control of said device for the purpose of authorizing or controlling use of said device in the application of credit, debit and cash transactions, including cryptocurrency and card-to-card transactions. Methods are also described for generating a limited-duration credit card number when performing a transaction for the purpose of creating a limited-use credit card number, which is limited in scope of use to a predetermined number of authorized transactions. Furthermore said device may interact with other similar devices in proximity for the purpose of funds or credit/debit transfers.

The ’820 Patent, titled “Multi-Function Electronic Payment Device,” issued on April 21, 2020, and bears an earliest priority date of March 17, 2014. The Abstract of the ’820 Patent is similar to the Abstract of the ’520 Patent, which is reproduced above.

The ’579 Patent, titled “Smart Tokenizing Payment Card and Device and Transaction Processing Thereof, System and Method,” issued on October 20, 2020, and bears an earliest

priority date of March 17, 2014. The Abstract of the '579 Patent is similar to the Abstract of the '520 Patent, which is reproduced above.

The '538 Patent, titled “Multi-Function Smart Tokenizing Electronic Payment Device,” issued on November 16, 2021, and bears an earliest priority date of March 17, 2014. The Abstract of the '538 Patent is similar to the Abstract of the '520 Patent, which is reproduced above.

The '286 Patent, titled “Multi-Function Electronic Payment Card and Device System,” issued on May 10, 2022, and bears an earliest priority date of March 17, 2014. The Abstract of the '286 Patent is similar to the Abstract of the '520 Patent, which is reproduced above.

The '520 Patent, the '820 Patent, the '579 Patent, the '538 Patent, and the '286 Patent all claim priority to United States Patent No. 9,022,286.

Shortly before the start of the August 8, 2023 hearing, the Court provided the parties with preliminary constructions with the aim of focusing the parties' arguments and facilitating discussion. Those preliminary constructions are noted below within the discussion for each term.

II. LEGAL PRINCIPLES

“It is a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention to which the patentee is entitled the right to exclude.’” *Phillips*, 415 F.3d at 1312 (quoting *Innova/Pure Water Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). Claim construction is clearly an issue of law for the court to decide. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970–71 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996). “In some cases, however, the district court will need to look beyond the patent’s intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the

background science or the meaning of a term in the relevant art during the relevant time period.” *Teva*, 135 S. Ct. at 841 (citation omitted). “In cases where those subsidiary facts are in dispute, courts will need to make subsidiary factual findings about that extrinsic evidence. These are the ‘evidentiary underpinnings’ of claim construction that we discussed in *Markman*, and this subsidiary factfinding must be reviewed for clear error on appeal.” *Id.* (citing 517 U.S. 370).

To determine the meaning of the claims, courts start by considering the intrinsic evidence. *See Phillips*, 415 F.3d at 1313; *see also C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 861 (Fed. Cir. 2004); *Bell Atl. Network Servs., Inc. v. Covad Commc’ns Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). The intrinsic evidence includes the claims themselves, the specification, and the prosecution history. *See Phillips*, 415 F.3d at 1314; *C.R. Bard*, 388 F.3d at 861. Courts give claim terms their ordinary and accustomed meaning as understood by one of ordinary skill in the art at the time of the invention in the context of the entire patent. *Phillips*, 415 F.3d at 1312–13; *accord Alloc, Inc. v. Int’l Trade Comm’n*, 342 F.3d 1361, 1368 (Fed. Cir. 2003).

The claims themselves provide substantial guidance in determining the meaning of particular claim terms. *Phillips*, 415 F.3d at 1314. First, a term’s context in the asserted claim can be very instructive. *Id.* Other asserted or unasserted claims can aid in determining the claim’s meaning because claim terms are typically used consistently throughout the patent. *Id.* Differences among the claim terms can also assist in understanding a term’s meaning. *Id.* For example, when a dependent claim adds a limitation to an independent claim, it is presumed that the independent claim does not include the limitation. *Id.* at 1314–15.

“[C]laims ‘must be read in view of the specification, of which they are a part.’” *Id.* at 1315 (quoting *Markman*, 52 F.3d at 979). “[T]he specification ‘is always highly relevant to

the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” *Phillips*, 415 F.3d at 1315 (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)); accord *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002). This is true because a patentee may define his own terms, give a claim term a different meaning than the term would otherwise possess, or disclaim or disavow the claim scope. *Phillips*, 415 F.3d at 1316. In these situations, the inventor’s lexicography governs. *Id.* The specification may also resolve the meaning of ambiguous claim terms “where the ordinary and accustomed meaning of the words used in the claims lack sufficient clarity to permit the scope of the claim to be ascertained from the words alone.” *Teleflex*, 299 F.3d at 1325. But, “[a]lthough the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims.” *Comark Commc’ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998) (quoting *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988)); accord *Phillips*, 415 F.3d at 1323.

The prosecution history is another tool to supply the proper context for claim construction because a patent applicant may also define a term in prosecuting the patent. *Home Diagnostics, Inc. v. Lifescan, Inc.*, 381 F.3d 1352, 1356 (Fed. Cir. 2004) (“As in the case of the specification, a patent applicant may define a term in prosecuting a patent.”). “[T]he prosecution history (or file wrapper) limits the interpretation of claims so as to exclude any interpretation that may have been disclaimed or disavowed during prosecution in order to obtain claim allowance.” *Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 452 (Fed. Cir. 1985).

Although extrinsic evidence can be useful, it is “less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Phillips*, 415 F.3d at 1317

(citations and internal quotation marks omitted). Technical dictionaries and treatises may help a court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but technical dictionaries and treatises may provide definitions that are too broad or may not be indicative of how the term is used in the patent. *Id.* at 1318. Similarly, expert testimony may aid a court in understanding the underlying technology and determining the particular meaning of a term in the pertinent field, but an expert’s conclusory, unsupported assertions as to a term’s definition are entirely unhelpful to a court. *Id.* Generally, extrinsic evidence is “less reliable than the patent and its prosecution history in determining how to read claim terms.” *Id.*

The Supreme Court of the United States has “read [35 U.S.C.] § 112, ¶ 2 to require that a patent’s claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2129 (2014). “A determination of claim indefiniteness is a legal conclusion that is drawn from the court’s performance of its duty as the construer of patent claims.” *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1347 (Fed. Cir. 2005) (citations and internal quotation marks omitted), *abrogated on other grounds by Nautilus*, 134 S. Ct. 2120. “Indefiniteness must be proven by clear and convincing evidence.” *Sonix Tech. Co. v. Publ’ns Int’l, Ltd.*, 844 F.3d 1370, 1377 (Fed. Cir. 2017).

III. AGREED TERMS

In their May 12, 2023 P.R. 4-3 Joint Claim Construction and Prehearing Statement (Dkt. No. 80) and in their briefing (Dkt. No. 103, Ex. A at 3), the parties submit that they have not agreed on any constructions.

IV. DISPUTED TERMS

A. “static”

<p style="text-align: center;">“static” ('520 Patent, Claims 1, 10; '820 Patent, Claim 18; '579 Patent, Claims 21, 22; '538 Patent, Claims 1, 21, 28; '286 Patent, Claims 20, 21, 24–27)</p>	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
Not Indefinite, Plain and Ordinary Meaning	Indefinite Alternatively: IPR Disclaimer: “remaining the same and not updated after a certain number of transactions or certain time period”

Dkt. No. 80, Ex. 1 at 2 & 11–12; *id.*, Ex. 2 at 2 & n.2; *id.* at 12; Dkt. No. 110, App’x A at 1.

Shortly before the start of the August 8, 2023 hearing, the Court provided the parties with its preliminary construction that this term has its plain and ordinary meaning.

(1) The Parties’ Positions

Plaintiff argues that the portion of the *Inter Partes* Review (“IPR”) proceedings relied upon by Defendants “does not come close to meeting the . . . standard for prosecution disclaimer, let alone convert an otherwise easily understandable term into one that is indefinite” Dkt. No. 103, Ex. A at 7. Plaintiff further argues that “CardWare’s Preliminary Response [in IPR] must be read in this context of responding to Samsung’s arguments in its Petition and discussing the disclosure of [the] Carlson [reference] as a whole.” *Id.* at 8. Plaintiff urges that, “[r]ead in context, there is nothing about CardWare’s argument in the Preliminary Response that suggests that ‘static’ has anything other than its plain and ordinary meaning.” *Id.* at 9.

Defendants respond that “CardWare has narrowed the meaning of ‘static’ in all claims of the asserted patents through prosecution disclaimer by representing in the related ’520 Patent IPR proceedings that a number that changes or expires cannot be static.” Dkt. No. 104 at 4. Defendants argue that “CardWare’s disclaimer and the PTAB’s construction conflict with dependent claims 21 and 22 of the ’579 Patent, which require the ‘static’ number to have a limited duration of validity,” and Defendants submit that those claims are therefore indefinite. *Id.* (citations omitted). Alternatively, Defendants argue that “[s]hould the Court find there is no disclaimer, then all of the claims (independent and dependent) reciting ‘static’ are indefinite because the intrinsic record does not provide guidance on how frequently a number may be updated (if at all) or how long it must be valid to be ‘static.’” *Id.* at 4 (citation omitted).

Plaintiff replies that “[t]here can be no dispute that an account number embossed on a traditional credit card is ‘static,’” and “[t]his is true even though the credit card number eventually expires, and a user gets a new credit card and number.” Dkt. No. 109 at 1. As to the IPR proceedings, Plaintiff replies that “CardWare’s response [regarding the Carlson reference] made the straightforward argument that a dynamically generated PAI cannot be static, and that Samsung’s attempt to mischaracterize it as such was belied by its own use of the Carlson disclosure to argue that a person of ordinary skill would have been motivated to regularly update the pseudo account number of another prior art reference (to Gomez).” *Id.* at 2 (citations omitted).

At the August 8, 2023 hearing, Defendant emphasized that in the IPR proceedings the patentee distinguished certain activity in the Carlson reference as being *not* “static,” which Defendant urged gave rise to a disclaimer. Defendant also submitted that the PTAB’s discussion

of the meaning of “static” did not address any issue of expiration. Plaintiff responded that the patentee made no statement in the IPR proceedings that “static” means forever unchanging.

(2) Analysis

As a threshold matter, the parties agree that the term “static” should be interpreted consistently across all of the patents-in-suit, which all claim priority to a common parent application. *See* Dkt. No. 104 at 7 n.2.

Claim 1 of the ’520 Patent, for example, recites (emphasis added):

1. An electronic device comprising:

. . . a computer readable medium having instructions stored thereon that, responsive to execution by the electronic device, cause the electronic device to perform operations comprising:

accepting a user input of issued payments information input at a touch screen display of the electronic device, wherein the information comprising an issuer provided payment information;

wherein the memory comprises device-specific information and user-specific information; and,

wherein the user provided payment information is communicated wirelessly; and,

wirelessly receiving a *static* device account number payment information for storage on the electronic device; and

wherein at least a portion of the payment information is a limited-use number for limited-use by the device, in place of a issuer provided payment information; and,

dynamically-generating a one-time limited-use numbers based on at least one of a set of information including: user-identifying information; user secrets; device information; device secrets; time; merchant; facility location; sequence count; payment information; account information; amount; and transaction information; and

using said *static* device account number and said dynamically generated one-time limited-use number together in the place of issuer provided payment information for making a payment transaction.

Defendants point to statements by Plaintiff during IPR proceedings as to the ’520 Patent.

As a general matter, “a patentee’s disclaimer during an IPR can bind the patentee to a narrower claim interpretation in a subsequent proceeding, [such as] a district court infringement proceeding.” *CUPP Computing AS v. Trend Micro Inc.*, 53 F.4th 1376, 1383 (Fed. Cir. 2022)

(citing *Aylus Networks, Inc. v. Apple Inc.*, 856 F.3d 1353, 1355, 1361 (Fed. Cir. 2017)); *see also* *AstraZeneca AB v. Mylan Pharms., Inc.*, 19 F.4th 1325, 1335 (Fed. Cir. 2021) (“[A]ny explanation, elaboration, or qualification presented by the inventor during patent examination is relevant, for the role of claim construction is to ‘capture the scope of the actual invention’ that is disclosed, described, and patented.”) (citations and internal quotation marks omitted).

In those IPR proceedings, the patentee filed a Patent Owner Preliminary Response arguing that the “Gomez” reference (U.S. Patent No. 9,600,808) and the “Carlson” reference (U.S. Patent Application Publication No. 2008/0319905) were distinguishable from the claimed invention, arguing in pertinent part as follows:

The PAI [(primary account identifier) disclosed in Carlson] has absolutely nothing to do with the “device” itself, and is not even “static.” As noted above, it may be dynamically generated, and Carlson specifically explains that it should be regularly updated by the payment processor, and may even be limited to a single use by the device. *E.g.*, Ex. 1006 ¶0036 (“the pseudo primary account number may be set to expire after a certain number of transactions or after a certain time period. Doing so can help to ensure that if for some reason a pseudo primary account number is revealed to anyone other than an authorized user, the amount of damage that can be done is limited due to the limited lifetime of the pseudo primary account number.”), ¶0044 (“Because the pseudo primary account identifier can be transitory and may have a limited lifetime, it can be noted that tis [sic] provides a level of protection o [sic] the consumer’s account.”)

Indeed, Petitioner tries to have it both ways with Carlson. On the one hand, Petitioner argues that a POSITA would modify Gomez based on Carlson’s PAI disclosure because a POSITA would want to regularly change the payment number to purportedly improve security. Pet., 19. But, on the other hand, Petitioner argues that the PAI is static. Pet., 57-58. Petitioner never reconciles these facially inconsistent statements or explains how a “dynamically generated” and “transitory” number that is designed to regularly change and be updated can also be a “static device account number.”

Dkt. No. 98, Ex. 9, Mar. 15, 2023 Patent Owner Preliminary Response at 19–20.

The patentee thus argued that a feature disclosed in Carlson for changing a number to improve security could not be relied upon to satisfy the “static device account number payment

information” claim limitation. *See id.* This did not amount to any definition or disclaimer that would require “static” to mean remaining the same and not updated.

Also of note, in denying the IPR petition, the Patent Trial and Appeal Board (“PTAB”) applied “the ordinary and customary meanings of ‘static’ and ‘dynamic’”:

To the extent that Petitioner equates a static number with a dynamic number, we disagree. The ’520 Patent uses the words, “static” and “dynamic,” consistent with *their ordinary and customary meanings, where “static” means fixed or unchanging, and “dynamic” means continuously changing.* Claims 1 and 10 [of the ’520 patent] recite “a static device account number” and a “dynamically generated one-time limited-use number,” and further recite using these two numbers “together in place of issuer provided payment information for making a payment transaction.” We find that these recitations are consistent with the *ordinary and customary meanings of “static” and “dynamic.”*

Our finding is reinforced by the Specification, which distinguishes between a “static” number (or number portion) that is “fixed” and a “limited-duration” number (or number portion) that is “dynamically generated.” [’520 Patent at] 10:3–7, 10:13–23, 10:33–62. According to the ’520 Patent, “[t]he limited-duration credit card number is able to be limited to only one transaction, a finite number of transactions, or may be limited to a specified period of time—e.g., 2 minutes, 10 minutes, 3 hours—after which time that particular limited-duration number would become invalid.” *Id.* at 10:18–23. The ’520 Patent discloses an embodiment in which “the number displayed on the credit card device is a static number, but the number transmitted during a transaction is a limited-duration credit card number as described above.” *Id.* at 10:33–36. The ’520 Patent discloses another embodiment in which a portion of the credit card number is “fixed” or “static” and another portion is “dynamically generated.” *Id.* at 10:34–46, 10:53–56. The Specification does not support construing “a static device account number” as encompassing a number that is dynamically generated and valid for only a finite number of transactions or a specified period of time, such as two minutes, ten minutes, or three hours.

We determine that no further claim construction is necessary for purposes of this Decision.

Dkt. No. 98, Ex. 10, June 13, 2023 Decision at 8–9 (emphasis added; internal citations omitted).

Defendants point to dependent Claims 21 and 22 of the ’579 Patent, which each recite a “static” number having a limited duration of validity. In essence, Defendants argue that Plaintiff’s arguments in IPR are inconsistent with these dependent claims, which Defendants

argue renders the scope of “static” not reasonably certain. Dependent Claims 21 and 22 of the ’579 Patent recite:

21. The electronic device of claim 19, wherein the memory is accessible to the processor,

wherein said memory comprises a static device-specific device account number of limited-use that originates from a card issuing authority and is limited to use by the electronic device in place of a card issuer account information,

wherein further said static device-specific device account number has an expiration date of limited duration of validity, and

wherein the generating a limited-use payment information comprises the processor generating said limited-use payment information by combining said static device-specific device account number, said device account expiration date, when said issuer payment account method is selected.

22. The electronic device of claim 19, wherein the memory is accessible to the processor, and wherein said memory comprises:

a static device-specific device account information including a device account number of limited-use;

and keys, wherein said device-specific device account information originates from a card issuing authority and is for limited-use by the specific electronic device only;

and wherein said static device-specific device account information is valid for a limited duration, and wherein the generating a limited-use payment information comprises the processor generating a one-time limited-use cryptogram number and combining said limited-use static device account information and said one-time use cryptogram number to produce the limited-use payment information.

These dependent claims do not create any inconsistency. For example, a number having limited duration of validity does not necessarily imply that the number changes and—when considering the contrast between static and dynamic in the context of the specification and as found by the PTAB (reproduced above)—a credit card that has an expiration date, for example, can still be considered to set forth “static” payment information. The opinions of Defendants’ expert to the contrary are unpersuasive. Dkt. No. 98, Ex. 6, May 12, 2023 Madisetti Decl. at ¶¶ 123–27.

The Court therefore hereby expressly rejects Defendants’ indefiniteness arguments.

Defendants’ alternative proposal, that “static” be construed to mean “remaining the same and not updated after a certain number of transactions or certain time period,” is also rejected for the reasons set forth above regarding the IPR proceedings. Moreover, Defendant’s alternative proposal would tend to confuse rather than clarify the scope of the claims, such as by using the words “updated” and “certain” that might themselves give rise to disputes regarding scope. Also, introducing Defendants’ proposed parameters (time period or number of transactions) would import specific features of particular disclosed embodiments and should therefore be rejected. *See Phillips*, 415 F.3d at 1323.

The Court therefore hereby expressly rejects Defendants’ alternative proposed construction. Any remaining dispute regarding whether a particular accused instrumentality is “static” relates to factual disputes regarding infringement rather than any legal question for claim construction. *See PPG Indus. v. Guardian Indus. Corp.*, 156 F.3d 1351, 1355 (Fed. Cir. 1998) (“after the court has defined the claim with whatever specificity and precision is warranted by the language of the claim and the evidence bearing on the proper construction, the task of determining whether the construed claim reads on the accused product is for the finder of fact”); *see also Acumed LLC v. Stryker Corp.*, 483 F.3d 800, 806 (Fed. Cir. 2007) (“[t]he resolution of some line-drawing problems . . . is properly left to the trier of fact”) (citing *PPG*, 156 F.3d at 1355); *Eon Corp. IP Holdings LLC v. Silver Spring Networks, Inc.*, 815 F.3d 1314, 1318–19 (Fed. Cir. 2016) (citing *PPG*, 156 F.3d at 1355; citing *Acumed*, 483 F.3d at 806).

The Court accordingly hereby construes “**static**” to have its **plain meaning**.

B. “device-specific [information]” and “user-specific information”

“device-specific [information]” “user-specific information” (’520 Patent, Claims 1, 10; ’538 Patent, Claims 8, 28)	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
Not Indefinite, Plain and Ordinary Meaning	Indefinite

Dkt. No. 80, Ex. 1 at 13; *id.*, Ex. 2 at 13; Dkt. No. 110, App’x A at 1.

Shortly before the start of the August 8, 2023 hearing, the Court provided the parties with its preliminary construction that these terms have their plain and ordinary meaning.

(1) The Parties’ Positions

Plaintiff argues that there is no lack of clarity or inconsistency between these two terms because “[i]nformation can be just device-specific or just user-specific,” “[o]r, it can be both user- and device-specific.” Dkt. No. 103, Ex. A at 11.

Defendants respond that “it is unclear how one would determine whether any particular information is ‘specific’ to a device or user, or how a POSITA would distinguish between ‘device-specific information’ and ‘user-specific information.’” Dkt. No. 104 at 8 (citation omitted). Defendants argue that “[i]f one type of information can be both device-specific and user-specific, . . . it is unclear to a POSITA where the bounds of one type of information begin or end (including where they overlap), [and] it is impossible to ascertain when or if a claim requiring one or both types of information is infringed with reasonable certainty.” *Id.* at 9 (citations omitted).

Plaintiff replies that “there are innumerable, readily understandable occurrences that a lay person would understand, for example: a social security number or a fingerprint would be user-specific, and a smartphone serial number would be device-specific.” Dkt. No. 109 at 3.

At the August 8, 2023 hearing, the parties presented oral arguments as to these terms.

(2) Analysis

Claim 1 of the ’520 Patent recites (emphasis added):

1. An electronic device comprising:

. . . a computer readable medium having instructions stored thereon that, responsive to execution by the electronic device, cause the electronic device to perform operations comprising:

accepting a user input of issued payments information input at a touch screen display of the electronic device, wherein the information comprising an issuer provided payment information;

wherein the memory comprises *device-specific information* and *user-specific information*; and,

wherein the user provided payment information is communicated wirelessly; and,

wirelessly receiving a static device account number payment information for storage on the electronic device; and

wherein at least a portion of the payment information is a limited-use number for limited-use by the device, in place of a issuer provided payment information; and,

dynamically-generating a one-time limited-use numbers based on at least one of a set of information including: user-identifying information; user secrets; device information; device secrets; time; merchant; facility location; sequence count; payment information; account information; amount; and transaction information; and

using said static device account number and said dynamically generated one-time limited-use number together in the place of issuer provided payment information for making a payment transaction.

As Plaintiff argues, nothing in the claim language or the other intrinsic evidence requires that these two disputed terms are mutually exclusive. That is, a particular piece of information could be device-specific, user-specific, neither, or both. Defendants’ argument regarding a purported inability to distinguish information as being either one or the other is therefore unavailing. Also of note, dependent Claims 12 and 13, which depend from independent

Claim 10, provide examples of “device-specific information” and “user-specific information” that further reinforce that these terms, although broad, are reasonably clear and have their plain meanings:

12. The method of claim 10, wherein the device-specific information comprises at least one of a set including: device identifiers; device secrets; devices keys; device usage sequence counters; and device account numbers.

13. The method of claim 10, wherein the user-specific information comprises at least one of a set comprising: an email address; a username; a password; a PIN; a passcode; gestures; user information; bank accounts; payment information; device account numbers; merchant accounts; online accounts; currency amount; currency type; cryptocurrency address; cryptocurrency keys; private/public keys; signature information; and user secrets.

These disputed terms merely require information related to a specific device and information related to a specific user, respectively, and although these terms are broad, “breadth is not indefiniteness.” *See BASF Corp. v. Johnson Matthey Inc.*, 875 F.3d 1360, 1367 (Fed. Cir. 2017). The opinions of Defendants’ expert to the contrary do not compel otherwise. *See* Dkt. No. 98, Ex. 6, May 12, 2023 Madisetti Decl. at ¶¶ 128–130. This remains true regardless of whether other related patents use the word “unique” in the same claims as the phrase “device-specific” because the phrases “device-specific” and “user-specific” are reasonably clear without necessarily being “unique.” *See* ’538 Patent at Cls. 8 & 11.

The Court therefore hereby expressly rejects Defendants’ indefiniteness arguments. Defendants do not present any alternative proposed construction, and no further construction is necessary. The Court accordingly hereby construes “**device-specific [information]**” and “**user-specific information**” to have their **plain meaning**.

C. “the payment information”

“the payment information” (’520 Patent, Claim 1)	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
Not Indefinite, Plain and Ordinary Meaning	Indefinite

Dkt. No. 80, Ex. 1 at 4; *id.*, Ex. 2 at 3; Dkt. No. 110, App’x A at 1.

The Court did not provide the parties with a preliminary construction for this term.

(1) The Parties’ Positions

Plaintiff argues that “[f]or good reason, the claim recites several different categories of ‘payment information,’” “[t]he antecedent basis of ‘the user provided payment information’ in the claim comes from the prior limitation,” “the disputed . . . term does not refer to the ‘user provided payment information,’” and “the context of the claim makes clear that the disputed claim limitation is referring to the actual payment information that is used in connection with the secure ‘payment transaction.”” Dkt. No. 103, Ex. A at 13.

Defendants respond that “[t]he claim is indefinite because the antecedent basis for the term ‘the payment information’ is unclear” because “[i]t is unclear whether ‘the payment information’ . . . refers to the previously recited ‘the user provided payment information’ . . . or ‘a static device account number payment information’” Dkt. No. 104 at 10 (citations omitted).

Plaintiff replies that “the antecedent basis of ‘user provided payment information’ is ‘accepting a user input of issued payments information,’ such that the ‘user provided payment information’ refers to the ‘issued payments information’ (e.g., an issued credit card number),” and Plaintiff thus reiterates that Defendants’ expert “is wrong that the disputed ‘payment

information’ term, which, per the claim language itself, is ‘a limited-use number’ and different than the ‘issued payments’ information, could plausibly refer to the ‘user provided payment information.’” Dkt. No. 109 at 4.

At the August 8, 2023 hearing, the parties presented oral arguments as to this term.

(2) Analysis

As a general matter, “a claim could be indefinite if a term does not have proper antecedent basis where such basis is not otherwise present by implication or the meaning is not reasonably ascertainable.” *Halliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1249 (Fed. Cir. 2008).

Claim 1 of the ’520 patent recites (emphasis added):

1. An electronic device comprising:

. . . a computer readable medium having instructions stored thereon that, responsive to execution by the electronic device, cause the electronic device to perform operations comprising:

accepting *a user input of issued payments information* input at a touch screen display of the electronic device, wherein the information comprising *an issuer provided payment information*;

wherein the memory comprises device-specific information and user-specific information; and,

wherein *the user provided payment information* is communicated wirelessly; and,

wirelessly receiving *a static device account number payment information* for storage on the electronic device; and

wherein at least a portion of *the payment information* is a limited-use number for limited-use by the device, in place of a issuer provided payment information; and,

dynamically-generating a one-time limited-use numbers based on at least one of a set of information including: user-identifying information; user secrets; device information; device secrets; time; merchant; facility location; sequence count; *payment information*; account information; amount; and transaction information; and

using said static device account number and said dynamically generated one-time limited-use number together in the place of issuer provided payment information for making a payment transaction.

At the August 8, 2023 hearing, Plaintiff argued that this disputed term simply drops the modifiers that appear in previous recitations of “payment information” and therefore refers back to *all* recitations of “payment information.”

Such a reading, however, cannot be squared with the context provided by surrounding claim language. The disputed term cannot simply be understood as referring back to “a static device account number payment information” because “the payment information” is recited not as being static but rather as being “a limited-use number for limited-use by the device.” For the same reason, the disputed term likewise cannot be understood as referring back to “a user input of issued payments information,” “an issuer provided payment information,” or “the user provided payment information.” Indeed, the claim expressly recites that “the payment information” is used “*in place of* a issuer provided payment information.” To the extent Plaintiff is arguing that “the payment information” refers generically to whatever is used “in the place of issuer provided payment information for making a payment transaction” (as recited in the final limitation of the claim), the claim contains no omnibus recitation of “payment information,” and the presence of multiple instances of other “payment information” renders the claim not reasonably clear.

The claim thus fails to “inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus*, 134 S. Ct. at 2129; *see Halliburton*, 514 F.3d at 1249 (quoted above).

The Court accordingly hereby finds that **“the payment information” in Claim 1 of the ’520 Patent is indefinite.**

D. “issued payment information,” “an issuer provided payment information,” “the issuer provided payment information,” “a static device account number payment information,” “the payment information,” “a issuer provided payment information,” “payment information,” and “issuer provided payment information”

<p style="text-align: center;"> “issued payment information” “an issuer provided payment information” “the issuer provided payment information” “a static device account number payment information” “the payment information” “a issuer provided payment information” “payment information” “issuer provided payment information” (’520 Patent, Claim 10) </p>	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
Not Indefinite, Plain and Ordinary Meaning	Indefinite

Dkt. No. 80, Ex. 1 at 5–6; *id.*, Ex. 2 at 5; Dkt. No. 110, App’x A at 1–2.

The Court did not provide the parties with preliminary constructions for these terms.

(1) The Parties’ Positions

Plaintiff argues: “A patentee can claim just what CardWare did, including, for example, dynamically generating a one-time limited-use number based on ‘payment information.’ Does it have to be the previously introduced ‘payment information’? No, not necessarily. Does it have to be a *new* piece of ‘payment information’? No, the claim is not so limited. It just has to be ‘payment information.’ That is what the patentee wrote, it is clear, and it is permissible under the law. There is nothing remotely ambiguous about it.” Dkt. No. 103, Ex. A at 16.

Defendants respond that “Claim 10 of the ’520 Patent is indefinite because it recites numerous variations of ‘payment information’ that have no clear antecedent basis,” and “[a] POSITA would effectively have to guess which antecedent payment information (or plurality of

payment information) is intended by this recitation of ‘the payment information.’” Dkt. No. 104 at 11 & 12 (citations and footnote omitted).

Plaintiff replies: “Samsung argues that this ‘payment information’ could be ‘an issuer provided payment information’ even though, as per the claim, the former is being used ‘in place of’ the latter. Similarly, it would make no sense for the disputed limitation to refer to ‘issued payment information,’ which ‘comprises [the] issuer provided payment information’ as recited earlier in the claim.” Dkt. No. 109 at 4.

At the August 8, 2023 hearing, the parties presented oral arguments as to these terms.

(2) Analysis

Claim 10 of the ’520 Patent recites (emphasis added):

10. A method of storing and generating payment information in an electronic device, the method comprising:

accepting a user input of *issued payment information* input at a touch screen display of the electronic device, wherein the information comprises *an issuer provided payment information*;

wherein the electronic device comprises device-specific and user-specific information; and,

wherein *the issuer provided payment information* is communicated wirelessly; and,

receiving wirelessly *a static device account number payment information* for storage on the electronic device; and wherein

at least a portion of *the payment information* is a limited-use number for limited use by the device, in place of *a issuer provided payment information*; and,

dynamically generating a one-time limited-use number based on at least one of a set of information including: user-identifying information; user secrets; device information; device secrets; time; merchant; facility location; sequence count; *payment information*; account information; amount; and transaction information; and

using said static device account number and said dynamically generated one-time limited-use number together in the place of *issuer provided payment information* for making a payment transaction.

Defendants argue that “the payment information” in Claim 10, viewed in light of the multiple “payment information” limitations that are recited in the claim (and that Defendants

identify here as the disputed terms), suffers from essentially the same lack of clarity as “the payment information” in above-discussed Claim 1. In their briefing, as well as at the August 8, 2023 hearing, Defendants identify no purported other lack of antecedent basis and no other purported basis for indefiniteness when discussing this group of disputed terms. *See* Dkt. No. 104 at 11–13; *see also id.*, Ex. 1, May 12, 2023 Madisetti Decl. at ¶¶ 40–42. Indeed, some of the identified terms are introduced by the indefinite article “a,” thus on their face not requiring any antecedent basis. Also, “the issuer provided payment information” has a clear antecedent basis, namely “an issuer provided payment information.”

As to “the payment information,” Claim 10 of the ’520 Patent (unlike above-discussed Claim 1) recites “payment information” in the preamble, thus introducing the term in a generic manner so as to encompass the various recitals of “information” involved in ultimately “making a payment transaction.”

Thus, **the antecedent basis for “the payment information” in Claim 10 of the ’520 Patent is the “payment information” recited in the preamble.** The Court therefore rejects Defendants’ indefiniteness argument. Defendants do not present any alternative proposed construction, and no further construction is necessary. The Court accordingly hereby construes these disputed terms to have their **plain meaning**.

E. “the payment information provided by the computing device is used in online transactions in place of a card issuers payment card information”

“the payment information provided by the computing device is used in online transactions in place of a card issuers payment card information” (’820 Patent, Claim 15)	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
Not Indefinite, Plain and Ordinary Meaning	Indefinite

Dkt. No. 80, Ex. 1 at 7; *id.*, Ex. 2 at 7; Dkt. No. 110, App’x A at 2.

Shortly before the start of the August 8, 2023 hearing, the Court provided the parties with its preliminary construction that this term has its plain and ordinary meaning.

(1) The Parties’ Positions

Plaintiff argues that “[t]he generation of the limited-use information is a different step (and may be alternatively performed by one of two devices) than *providing* it for payment in an online transaction,” and “in either event, the computing device *provides* that generated limited-use payment information for payment in the online transaction.” Dkt. No. 103, Ex. A at 18.

Defendants respond that “[t]he claim phrase is indefinite because it is not clear which component recited in the claim generates the payment information.” Dkt. No. 104 at 13 (citation omitted). Defendants argue that the specification does not disclose a computing device generating payment information, and “CardWare is also wrong that ‘provided’ means transmitting in the claim.” *Id.* at 14.

Plaintiff replies: “Claim 15 is clear that, in one step, dynamically generating a limited-use payment information may be performed by either the thin card-shaped payment card device or by a computing device. In a subsequent, separate step, the computing device provides the generated limited-use payment information for use in online transactions. Nothing in claim 15 requires the computing device to generate the limited-use payment information.” Dkt. No. 109 at 5.

At the August 8, 2023 hearing, the parties presented oral arguments as to this term.

(2) Analysis

Claim 15 of the ’820 Patent recites (emphasis added)

15. An online payment system comprising:
a thin card-shaped payment card device that bears no fixed payment numbers on the card device; and

a computing device operable for completing an online payment transaction and comprising:

a display;

a user-interface;

a processor; and

a memory for storing a payment card information accessible to the processor,

wherein card issuer provided payment card information is wirelessly downloaded into the computing device, and wherein at least one of the set comprising:

the computing device; and

the card-shaped payment device,

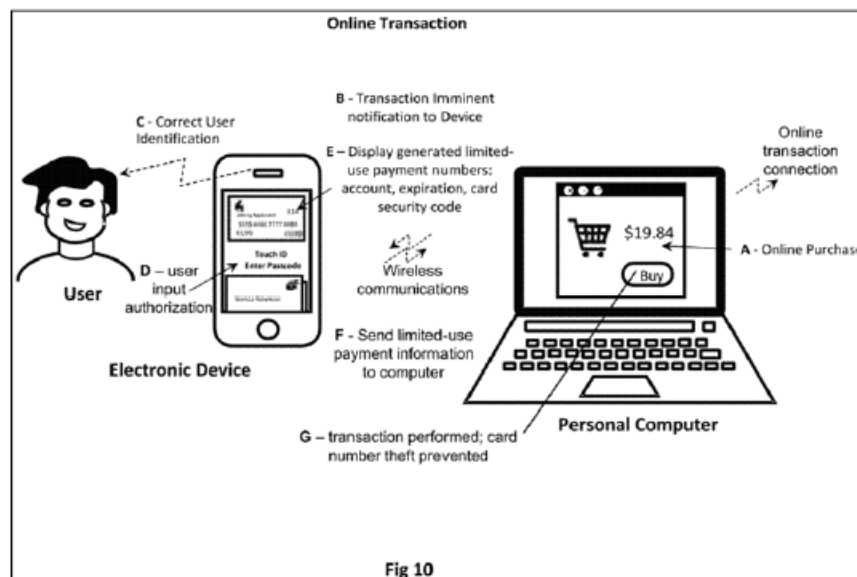
is configured to dynamically generate *a limited-use payment information*, upon the authorization of a valid computing device user, and

wherein *the payment information provided by the computing device is used in online transactions in place of a card issuers payment card information.*

The specification discloses:

When performing online transactions, the multi-function electronic device 501 can uniquely generate a limited-duration credit card number . . . for online purchases. . . . This enables a per-transaction, limited-use credit card number, enhancing the security of the credit account by substantially negating the possibility of a theft of the credit card number used to perform the transaction leading to account compromise.

'820 Patent at 12:61–13:10. Figure 10 of the '820 Patent illustrates using “limited-use payment information” in an online transaction and is reproduced here:



At first blush, the claim appears internally inconsistent because whereas the final limitation recites that “the payment information” is “provided by the computing device,” the preceding limitation recites that “*at least one of . . . the computing device[] and the card-shaped payment device*” “is configured to dynamically generate a limited-use payment information.”

This claim language, however, distinguishes between “generat[ing]” payment information and “provid[ing]” payment information. These different words, which appear in the same claim, are presumed to have different meanings. *Bancorp Servs., LLC v. Hartford Life Ins. Co.*, 359 F.3d 1367, 1373 (Fed. Cir. 2004) (“the use of both terms in close proximity in the same claim gives rise to an inference that a different meaning should be assigned to each”).

Moreover, Defendants do not adequately explain why the final limitation is not simply inapplicable when it is the card-shaped payment device (rather than “the computing device”) that “is configured to dynamically generate a limited-use payment information.”

Finally, Defendants argue that the specification does not describe the computing device generating limited-use payment information (Dkt. No. 104 at 14), but while this argument perhaps may bear upon enablement or written description, this argument does not demonstrate any lack of reasonable clarity in the claim language. Defendants’ arguments, and the opinions of Defendants’ expert, are unpersuasive and do not meet Defendants’ burden to show a lack of reasonable clarity. Dkt. No. 98, Ex. 6, May 12, 2023 Madisetti Decl. at ¶¶ 58–61.

The Court therefore hereby expressly rejects Defendants’ indefiniteness arguments. Defendants do not present any alternative proposed construction, and no further construction is necessary. The Court accordingly hereby construes **“the payment information provided by the computing device is used in online transactions in place of a card issuers payment card information”** to have its **plain meaning**.

F. “thin shaped body,” “a thin payment device,” and “a thin card-shaped payment card device”

<p style="text-align: center;">“thin shaped body” (’820 Patent, Claim 1)</p> <p style="text-align: center;">“a thin payment device” (’820 Patent, Claim 11)</p> <p style="text-align: center;">“a thin card-shaped payment card device” (’820 Patent, Claim 15)</p>	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
Not Indefinite, Plain and Ordinary Meaning	Indefinite

Dkt. No. 80, Ex. 1 at 8; *id.*, Ex. 2 at 7; Dkt. No. 110, App’x A at 2.

Shortly before the start of the August 8, 2023 hearing, the Court provided the parties with its preliminary construction that these terms have their plain and ordinary meaning.

(1) The Parties’ Positions

Plaintiff argues that the word “thin” is not unclear because “the specification is replete with examples of the thin, credit card type payment devices referenced in these terms.” Dkt. No. 103, Ex. A at 18. Plaintiff further argues that “specific numerical values for the dimensions of the device are not necessary because the specification reasonably describes the claimed subject matter to one of ordinary skill in the art.” *Id.* at 19 (citation omitted). Plaintiff also submits that the specification does not describe “smartphone-style” or “smartwatch-style” devices as being “thin” or “card-shaped.” *Id.* at 20 (citations omitted). Plaintiff also cites a decision by another district court in which “thin” was not indefinite and was not limited to a disclosed numerical range. *See Freeman v. Gerber Prods. Co.*, 357 F. Supp. 2d 1290, 1304–05 (D. Kan. 2005) (declining to limit the general descriptive word “thin” to a numerical range stated in the written description) (internal citations omitted). Finally, Plaintiff argues that “although the scope of the

three terms overlap, there are clear differences in scope—‘thin shaped body’ (claim 1); ‘a thin payment device’ (claim 11); ‘a thin card-shaped payment card device’ (claim 15)—and so claims 1, 11, and 15 also differ in scope.” *Id.* at 20–21 (footnote omitted).

Defendants respond that “[t]hin’ is a term of degree (e.g., a relative thickness), and the asserted patents do not state what ‘thin shaped body,’ ‘a thin payment device,’ and ‘a thin card-shaped payment card device’ mean with any reasonable certainty.” Dkt. No. 104 at 15 (citations omitted). Defendants argue that “the specification does not limit a ‘thin’ device to only a credit card shape or thickness” and that, during prosecution, Plaintiff used disclosures in the specification “to shoehorn in thin mobile devices that CardWare now argues are not thin,” such as smartphones and smartwatches. *Id.* at 17; *see id.* at 16.

Plaintiff replies that “the dimensions of a credit card are not a matter of taste or preference, but a property that can be seen by the normal human eye, and thus provide the objective baseline required under Federal Circuit law.” Dkt. No. 109 at 6 (citing *Sonix*, 844 F.3d at 1378–79). Plaintiff also argues that “the ’820 patent describes the devices depicted in 8A, 8B, 9, and 10 as multifunction or portable electronic devices,” and “[i]n contrast, card-shaped devices, such as those depicted in Figures 1, 2A, 2B, 4A, 4B, 11, are described as ‘thin’ in the ’820 patent.” Dkt. No. 109 at 6 (citing ’820 Patent at 2:35–36 & 3:46–59).

At the August 8, 2023 hearing, Plaintiff identified Figures 1 and 11 of the ’820 Patent in particular as providing context for understanding the meaning of the “thin” terms. Defendants noted that Figure 11 was added during prosecution, and Defendants reiterated that the “thin” terms are terms of degree that lack any objective guidelines in the specification.

(2) Analysis

Claim 1 of the ’820 Patent, for example, recites (emphasis added):

1. A payment device comprising:
 - a *thin* shaped body having no fixed payment numbers disposed thereon;
 - a memory;
 - a cryptographic processor coupled to the memory; and
 - a reader interface, including at least one interface selected from a set comprising: a magnetic-stripe, a smart card reader interface, a mag-stripe inductor interface, an RF interface, an NFC interface, and a wireless interface, and
 wherein payment information for a transaction is operable to be conveyed via the reader interface and comprises limited-use payment information, and wherein further the limited-use payment information is to be used in place of card issuer payment information for payment transactions by said device at payment card reader facilities.

“When a ‘word of degree’ is used, the court must determine whether the patent provides ‘some standard for measuring that degree.’” *Biosig Instruments, Inc. v. Nautilus, Inc.*, 783 F.3d 1374, 1378 (Fed. Cir. 2015) (citation omitted). Indefiniteness can arise from “facially subjective claim language without an objective boundary.” *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1373 (Fed. Cir. 2014); *see Sonix Tech. Co., Ltd. v. Publ’ns Int’l, Ltd.*, 844 F.3d 1370, 1377 (Fed. Cir. 2017) (“We have found terms of degree indefinite . . . when such guidance is lacking.”); *see also Innovative Display Techs. LLC v. Acer Inc.*, No. 2:13-CV-522-JRG, 2014 WL 4230037, at *26 (E.D. Tex. Aug. 26, 2014) (finding “quite small” indefinite “[i]n the absence of any objective criteria for evaluating . . . a purely subjective term”).

The Figures in the specification illustrate various examples of “thin” devices. *See* ’820 Patent at Figs. 1, 2A, 2B, 4A & 4B; *see also id.* at 2:35–37 (“a thin card shaped sized body”) & 18:42–45 (“apparatus for conducting credit card transactions” having “similar dimensions and thickness to a standard credit card”). The specification thus provides sufficient context for understanding how the patentee used the word “thin” in the ’820 Patent, and mathematical precision is not required. *See Niazi Licensing Corp. v. St. Jude Med. S.C.*, 30 F.4th 1339, 1347 (Fed. Cir. 2022) (“While there must be objective boundaries, we have explained that a patentee need not define his invention with mathematical precision in order to comply with the

definiteness requirement. . . . Indeed, patentees often use descriptive words . . . to avoid a strict numerical boundary to the specified parameter.”) (internal quotations and modifications omitted); *see also Sonix*, 844 F.3d at 1378–79.

Defendants note that, during prosecution, the patentee added Figures that illustrate smartphones and smartwatches, and when doing so the patentee stated that “[n]o new matter is added,” thereby relying on disclosed functionality also attributed to “thin” devices. *See* Dkt. No. 104, Ex. 3, July 1, 2019 Amendment and Response at 18 (p. 191 of 434 of Ex. 3). For example, the patentee stated that “Figures 8A and 8B find support at least in the exemplary embodiments disclosed . . . in paragraph [0052], e.g., ‘transactions performed wirelessly between a card and a device’” *Id.* at 19 (p. 192 of 434 of Ex. 3). The patentee did *not*, however, describe or rely upon smartphones or smartwatches as necessarily being “thin.” *See id.* at 16–25 (pp. 189–98 of 434 of Ex. 3). No such disclosure appears in the specification or the prosecution history. Further, even though the thickness of smartphones and smartwatches has decreased over time, Defendants’ do not show that the word “thin” has ever been well-established in the art as necessarily including smartphones or smartwatches. *See* Dkt. No. 98, Ex. 6, May 12, 2023 Madisetti Decl. at ¶¶ 62–66.

Finally, Defendants argue that these terms are unclear because each of the three claims at issue uses a different “thin” term: “thin shaped body” (’820 Patent, Claim 1); “a thin payment device” (’820 Patent, Claim 11); and “a thin card-shaped payment card device” (’820 Patent, Claim 15). This argument is unavailing because different wording in different independent claims does not necessarily imply a difference in scope. *See Andersen Corp. v. Fiber Composites, LLC*, 474 F.3d 1361, 1370–71 (Fed. Cir. 2007) (“[O]verlapping patent claims are not unusual, and the overlap does not require us to construe the [claims at issue] to cover subject

matter that differs from the subject matter covered by the other two sets of claims.”); *see also Nystrom v. TREX Co.*, 424 F.3d 1136, 1143 (Fed. Cir. 2005) (“Different terms or phrases in separate claims may be construed to cover the same subject matter where the written description and prosecution history indicate that such a reading of the terms or phrases is proper.”) (citation omitted); *Bancorp Servs., L.L.C. v. Hartford Life Ins. Co.*, 359 F.3d 1367, 1373 (Fed. Cir. 2004) (“it is not unknown for different words to be used to express similar concepts”).

The Court therefore hereby expressly rejects Defendants’ indefiniteness argument. Defendants present no alternative proposed construction, and no further construction is necessary. Further, any remaining dispute regarding whether a particular accused instrumentality is “thin” relates to factual issues regarding infringement rather than any legal question for claim construction. *See PPG*, 156 F.3d at 1355 (“after the court has defined the claim with whatever specificity and precision is warranted by the language of the claim and the evidence bearing on the proper construction, the task of determining whether the construed claim reads on the accused product is for the finder of fact”); *see also Acumed*, 483 F.3d at 806 (“[t]he resolution of some line-drawing problems . . . is properly left to the trier of fact”) (citing *PPG*, 156 F.3d at 1355); *Eon*, 815 F.3d at 1318–19 (citing *PPG*, 156 F.3d at 1355; citing *Acumed*, 483 F.3d at 806).

The Court accordingly hereby construes **“thin shaped body,” “a thin payment device,”** and **“a thin card-shaped payment card device”** to have their **plain meaning**.

G. “wherein a limited-use number comprises a device account number” and “combining the limited-use number and said device account number”

“wherein a limited-use number comprises a device account number” “combining the limited-use number and said device account number” (’579 Patent, Claim 4)	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
Not Indefinite, Plain and Ordinary Meaning	Indefinite

Dkt. No. 80, Ex. 1 at 8; *id.*, Ex. 2 at 8; Dkt. No. 110, App’x A at 2.

Shortly before the start of the August 8, 2023 hearing, the Court provided the parties with its preliminary construction that this term has its plain and ordinary meaning.

(1) The Parties’ Positions

Plaintiff argues that there is no inconsistency in these terms because “[a] number can be an input into an algorithm to generate a limited-use number, and then can also be combined with the generated limited-use number.” Dkt. No. 103, Ex. A at 21.

Defendants respond that this claim is circular and therefore indefinite, and “[t]he specification does not resolve this ambiguity because it never discusses the disputed claim terms.” Dkt. No. 104 at 18 (citations omitted).

Plaintiff replies that “the test for indefiniteness is not whether the specification recites specific examples” but rather is “reasonable certainty.” Dkt. No. 109 at 7 (citations omitted).

At the August 8, 2023 hearing, the parties presented oral arguments as to this term.

(2) Analysis

Claim 4 of the ’579 Patent recites (emphasis added):

4. The method of claim 1, *wherein a limited-use number comprises a device account number*,

and wherein the device account number is of a limited time-duration of valid use, and wherein further a card issuing authority provides said device

account number for use only by the electronic device, in place of card issuer information in performing payment transactions by the electronic device, and further comprising:

performing payment transactions by the electronic device including the limited-use number;

combining the limited-use number and said device account number within a device generated payment information; and

conveying said device generated payment information, in place of card issuer information, when the device is performing payment transactions.

Defendants do not show any inconsistency in the claim language here at issue because, as Plaintiff persuasively argues, a number can be an input into an algorithm to generate a limited-use number and then can also be combined with the generated limited-use number. Plaintiff argues:

For example, a very simple cryptogram could be generated based on four different inputs:

$$(1) \text{ Cryptogram} = (\text{product purchase value}) * (\text{device account number value}) * (\text{sequence count value}) * (\text{merchant ID number})$$

Plugging in some arbitrary values for each of the variables results in:

$$(2) \text{ Cryptogram} = (4) * (35) * (5) * (3) = 2220$$

The above cryptogram value, which “comprises” the device account number, can then be “combined” with the same device account number value (35) used to generate the cryptogram in a variety of ways, such as 222035 (if placing the digits of the numbers together) or 2255 (if adding the two values). There is nothing indefinite about it at all; a number can serve multiple purposes.

Dkt. No. 103-1 at 21 (*italics omitted*). At the August 8, 2023 hearing, Defendants argued that Plaintiff’s example algorithm should be disregarded because it is not set forth in any intrinsic evidence, but Plaintiff’s hypothetical example persuasively demonstrates Plaintiff’s point as a matter of how the plain language of the claim can be readily understood. The opinions of Defendants’ expert to the contrary are unpersuasive. *See* Dkt. No. 98, Ex. 6, May 12, 2023 Madisetti Decl. at ¶¶ 67–69.

The Court therefore hereby expressly rejects Defendants’ indefiniteness argument. Defendants present no alternative proposed construction, and no further construction is necessary. The Court accordingly hereby construes “**wherein a limited-use number comprises a device account number**” and “**combining the limited-use number and said device account number**” to have their **plain meaning**.

H. “imminent performance”

“imminent performance” (’579 Patent, Claim 19)	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
Not Indefinite, Plain and Ordinary Meaning	Indefinite

Dkt. No. 80, Ex. 1 at 9; *id.*, Ex. 2 at 8; Dkt. No. 110, App’x A at 2.

Shortly before the start of the August 8, 2023 hearing, the Court provided the parties with its preliminary construction that this term has its plain and ordinary meaning.

(1) The Parties’ Positions

Plaintiff argues that the time scale of “imminent” is readily understandable in the context of the claimed invention, which “involves the process of paying for a good or service at a terminal using NFC technology.” Dkt. No. 103, Ex. A at 22.

Defendants respond that “Claim 19 of the ’579 Patent is indefinite because the term ‘imminent’ is subjective, and the intrinsic record provides no guidance on its scope.” Dkt. No. 104 at 19 (citations omitted). Defendants argue that “without knowing what duration is ‘imminent,’ a POSITA would not understand the amount of time a device may be primed (or remain primed) or how soon an ‘imminent performance’ must take place.” *Id.* (citation omitted).

Plaintiff replies that the patent provides sufficient context for this term because “the claims themselves, and nearly the entire specification, are directed to mobile payment transactions.” Dkt. No. 109 at 7.

At the August 8, 2023 hearing, Defendants argued that there is no way to know whether “imminent” refers to some number of seconds or minutes or some other measure of time. Plaintiff responded that because the context of this patent is Near Field Communication for payment transactions, the term “imminent performance” is reasonably clear. Plaintiff argued that the term refers not merely to enabling the feature for some future use but rather to preparing the device for a particular payment transaction that is about to happen. For example, Plaintiff suggested that a simple example that is readily understandable to anyone is when a person makes a purchase at a point-of-sale (while other customers are eagerly awaiting their turn).

(2) Analysis

Plaintiff does not dispute that “imminent” is a word of degree, and “[w]hen a ‘word of degree’ is used, the court must determine whether the patent provides ‘some standard for measuring that degree.’” *Biosig*, 783 F.3d at 1378 (citation omitted).

Claim 19 of the ’579 Patent recites (formatting modified; emphasis added):

19. An electronic device comprising:
 at least one processor;
 a memory coupled to the at least one processor;
 a display operable to present a visual user-interface comprising device inputs;
 display output;
 a device input;
 an NFC interface operable to receive a transaction request when in proximity to an NFC recipient;
 wherein the processor is operable to execute a program to implement a method comprising:
 accepting a priming action of the electronic device by an identified device user, from the device input;

enabling the electronic device for *imminent performance* of a payment operation responsive to the priming action of a valid user;

displaying a summary of selectable payment account options on the display;

receiving a payment selection and approval authorization from a valid device user via the device input; and

responsive to receiving an NFC transaction payment request, generating a limited-use payment information for use in place of card issuer payment information,

wherein the NFC interface is operable to transmit said payment information from said electronic device to the NFC recipient of the transaction; and

wherein further the processor is operable to cause the display to visually convey a status of the transaction.

This claim, as well as the '529 Patent as a whole, relates to payment transactions involving NFC (Near Field Communication), which provides important context for understanding the patentee's use of the word "imminent" in the above-reproduced claim.

Further, the specification uses "imminent" in the context of a particular payment transaction:

The credit card device 501 receives a user input indicating that a transaction is *imminent*, and an authorization. The user input is able to comprise a gesture, a swipe, a key input sequence, and combinations thereof. The limited-duration credit card number is able to be displayed on the front display of the credit card device 501.

* * *

In an embodiment, a set of accelerometers is used to detect the beginning of the transaction, for instance, a transaction performed by a swipe of credit card device 601a across credit card device 601b. Further, the set of accelerometers can detect a "priming" action for a credit card device, i.e., an indication for a credit card device that a transaction is imminent. The priming action can be a tap of the credit card device 601a, or tapping the credit card device 601a against the credit card device 601b. In one embodiment, a touch sensor array is able to be used for the priming action.

See '579 Patent at 12:2–8 & 13:22–32 (emphasis added).

Defendant argues that the relevant context is the priming, not the paying, but the overall context of a payment transaction is informative, particularly because what the claim recites as

being “imminent” is “performance of a payment operation.” In this context, the meaning of “imminent performance” is reasonably clear. The opinions of Defendants’ expert to the contrary are unpersuasive. *See* Dkt. No. 98, Ex. 6, May 12, 2023 Madisetti Decl. at ¶¶ 77–78.

The Court therefore hereby expressly rejects Defendants’ indefiniteness argument. Defendants present no alternative proposed construction, and no further construction is necessary. The Court therefore hereby construes “**imminent performance**” to have its **plain meaning**.

I. “said limited-use payment information”

“said limited-use payment information” (’538 Patent, Claim 1)	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
Not Indefinite, Plain and Ordinary Meaning	Indefinite

Dkt. No. 80, Ex. 1 at 9; *id.*, Ex. 2 at 9; Dkt. No. 110, App’x A at 2.

Shortly before the start of the August 8, 2023 hearing, the Court provided the parties with its preliminary construction that this term is indefinite.

(1) The Parties’ Positions

Plaintiff argues that Defendants’ argument regarding purported lack of antecedent basis is undercut by the May 10, 2022 Certificate of Correction (“CoC”). Dkt. No. 103, Ex. A at 22.

Defendants respond that Plaintiff’s arguments “concede[] the claim was indefinite prior to the COC, or at least waive[] any argument to the contrary,” and “[t]he COC cannot apply to alleged infringement occurring before the date it issued.” Dkt. No. 104 at 20 (citations omitted). Defendants also argue that, as to the uncorrected claim, “it is not clear which previous recitation or recitations of ‘information’ . . . the term ‘said limited-use payment information’ . . .

references in Claim 1.” *Id.* at 21 (citation omitted). “Additionally,” Defendants argue, “even though the COC changed ‘information’ to ‘informations’ (plural), such that the claim now refers to all antecedent information, nothing in the intrinsic record indicated that ‘informations’ was the correct reading of the claim before it was amended.” *Id.* (citation omitted).

Plaintiff replies: “CardWare has not conceded anything about the pre-CoC claim language. The claim was clear before the relevant CoC since it recited two types of payment information for use in the transaction.” Dkt. 109 at 8.

At the August 8, 2023 hearing, the parties presented oral arguments as to this term.

(2) Analysis

Claim 1 of the ’538 Patent recites (emphasis added):

1. A method of performing a payment transaction, the method comprising:
 - receiving an input at an electronic device corresponding to a priming operation of the electronic device by an authorized user; and,
 - wherein the authorizing of a user of the electronic device comprises recognizing a user input using a human input sensor, and wherein the human input sensor is any one of a touch sensor, a touch-screen display interface, a gesture sensor, a motion sensor, and a biometric sensor; and,
 - receiving a request for a transaction payment at said electronic device via an NFC interface of the device; and,
 - displaying, on a display of the device, a transaction payment request and at least a portion of an original static issuer-supplied payment account information associated with a payment method, for a user selection in paying the payment request; and,
 - retrieving from a memory attached to a processor of the device, a device-specific static limited-use payment information, associated with said selected payment method; and,
 - dynamically generating, by a processor of the device, device-specific limited-use payment information, for said selected payment method; and,
 - using *said limited-use payment informations* in place of at least a portion of said selected original issuer-supplied payment information for the transaction; and,
 - combining of said dynamically-generated limited-use payment information with said static limited-use payment information, to generate a complete device payment information; and,

transmitting said complete device payment information from said electronic device to a recipient reader via said NFC interface to the recipient NFC reader for a processing of the payment transaction; and,

receiving information at said electronic device corresponding to a transaction status of the payment transaction, wherein such transaction status is at least partly dependent on validation of the transmitted complete device payment information by a payment processor authority and a payment issuer authority; and,

visually conveying the transaction payment authorization status via a user-interface displayed on said display.

Prior to the May 10, 2022 Certificate of Correction, the disputed term (emphasized in above-reproduced Claim 1 of the '538 Patent) recited “said limited-use payment information.” *See* Dkt. No. 98, Ex. 4 at pp. 20 & 25 of 25 of Ex. 4. The Certificate of Correction replaced “information” with “informations.”

The indefiniteness opinion of Defendants’ expert “relates to the original claim language from before the Certificate of Correction issued.” Dkt. No. 98, Ex. 6, May 12, 2023 Madisetti Decl. at ¶ 79. Defendants thus do not challenge the definiteness of the corrected version of this claim.

The parties dispute whether the uncorrected version of this claim was indefinite (which is relevant to whether the claim could have been infringed prior to the Certificate of Correction). *See Novo Indus., L.P. v. Micro Molds Corp.*, 350 F.3d 1348, 1356 (Fed. Cir. 2003) (a “certificate of correction is only effective for causes of action arising after it was issued”) (citation omitted)).

At the August 8, 2023 hearing, Plaintiff argued that the word “information,” like the word “sheep,” inherently encompasses the plural. Plaintiff thus argued that the Certificate of Correction removed any doubt but did not actually change anything about the disputed term. Plaintiff’s argument is unpersuasive because the reference to an antecedent (signaled by use of the word “said”) results in ambiguity because of the presence of multiple potential antecedents, one of which is “static” and the other of which, by contrast, is “dynamically generated.” The

uncorrected claim was therefore unclear as to whether “said limited-use payment information” referred to “a device-specific static limited-use payment information,” “device-specific limited-use payment information” that was “dynamically generated,” or both. *See, e.g., Bushnell Hawthorne, LLC v. Cisco Sys., Inc.*, No. 2019-2191, 813 F. App’x 522, 525 (Fed. Cir. May 14, 2020) (“With three different IP addresses to choose from, a POSA faced with the ‘said different IP Address’ limitation is left to wonder which of the different IP addresses is ‘said’ different one.”).

Plaintiff points to nothing in the intrinsic record that could resolve this ambiguity. The *uncorrected* claim thus fails to “inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus*, 134 S. Ct. at 2129.

The Court therefore hereby finds that **“said limited use payment information,” as recited in Claim 1 of the ’538 Patent prior to the May 10, 2022 Certificate of Correction, was indefinite.**

J. “the electronic device” and “the device inputs”

“the electronic device” “the device inputs” (’538 Patent, Claim 25)	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
Not Indefinite, Plain and Ordinary Meaning	Indefinite

Dkt. No. 80, Ex. 1 at 9; *id.*, Ex. 2 at 9; Dkt. No. 110, App’x A at 3.

Shortly before the start of the August 8, 2023 hearing, the Court provided the parties with its preliminary construction that these terms have their plain and ordinary meaning.

(1) The Parties' Positions

Plaintiff argues that “it is clear what these terms refer to in claim 25,” and “there is nothing confusing or inconsistent about a ‘processor’ (such as processor 205 in the patent) that performs certain functions related to the device.” Dkt. No. 103, Ex. A at 23–24.

Defendants respond that “[t]he antecedent basis for ‘the electronic device’ (twice recited) and ‘the device inputs’ is unclear because claim 25 of the ’538 Patent is directed to ‘[a] non-transitory, computer-readable medium,’ not an electronic device or system,” and “the specification does not describe how ‘the electronic device’ and ‘the device inputs’ relate to ‘a non-transitory, computer-readable medium,’ and therefore provides no guidance as to the scope of the claim terms.” Dkt. No. 104 at 21 (citations omitted).

Plaintiff replies that “[t]here is no credible dispute that a claim directed to a computer readable medium with executable instructions can cause a processor to perform certain functions of computing devices,” and Plaintiff argues that introducing terms with the word “the” does not cause indefiniteness. Dkt. No. 109 at 8.

At the August 8, 2023 hearing, the parties presented oral arguments as to these terms.

(2) Analysis

The specification discloses:

Transactions may be authenticated on the specified account by entry of the username and password for the account during the transaction, using the touch sensor array 245. In an embodiment, a password for an account is represented by a user input (such as a gesture, a swipe, and/or an unlock keycode) which is entered on multi-function electronic device 201b during a transaction for account authentication. According to an embodiment of the present disclosure, a user that has “*primed*” the multi-function electronic device 201b for a transaction has already performed a security authentication on the card, and therefore a subsequent card transaction is able to be pre-authorized to perform the transaction without further user authentication steps. The priming action can be a tap of the multi-function electronic device 201b detected by accelerometers 235, or a gesture, swipe, or a key input received by touch sensor array 245.

'538 Patent at 11:54–12:3 (emphasis added).

Claim 25 of the '538 Patent recites (emphasis added):

25. A non-transitory, computer-readable medium storing computer executable instructions that when executed by one or more processors, cause the one or more processors to:

accept a priming action of *the electronic device* by an identified valid device user, identified from *the device inputs*;

enable *the electronic device* for imminent performance of a payment operation responsive to the priming action of said valid user;

display a summary of online purchase information including the merchant information and the purchase amount; and,

display at least one selectable issuer payment account methods on a display; and,

receive a payment selection and approval authorization from said valid device user via a human input sensing at the device; and

responsive to receiving a valid user transaction payment approval, generate a device-specific limited-use payment information for use in place of at least a portion of said selected issuer payment account information on the device,

form a complete combined device payment information from a dynamically generated portion and a statically generated portions stored in a memory of the device,

wherein the communication interface is operable to transmit said complete device payment information from said electronic device to the recipient of the online purchase transaction; and

wherein further the processor is operable to receive an approval and a denial confirmation from an online payment facility of the complete device payment information, and cause the display to visually convey a status of the online purchase transaction.

This is a so-called “Beauregard claim,” which “is a claim to a computer readable medium (e.g., a disk, hard drive, or other data storage device) containing program instructions for a computer to perform a particular process.” *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1373 (Fed. Cir. 2011) (discussing *In re Beauregard*, 53 F.3d 1583 (Fed. Cir. 1995)).

Regardless of whether the preamble is limiting, the recitals of “the electronic device” and “the device inputs” are reasonably clear. First, although “the electronic device” is introduced by the definite article, “the,” which typically refers back to an antecedent, the claim is reasonably

clear even without any antecedent. *See Energizer Holdings, Inc. v. Int’l Trade Comm’n*, 435 F.3d 1366, 1369–70 (Fed. Cir. 2006) (“When the meaning of the claim would reasonably be understood by persons of ordinary skill when read in light of the specification, the claim is not subject to invalidity upon departure from the protocol of ‘antecedent basis.’”) (discussing *Bose Corp. v. JBL, Inc.*, 274 F.3d 1354, 1359 (Fed. Cir. 2001)).

Second, the recital of “the device inputs” is reasonably clear because “inputs” are inherent in the previously recited “device.” *See id.* (“Inherent components of elements recited have antecedent basis in the recitation of the components themselves.”) (quoting *Manual of Patent Examining Procedure* § 2173.05(e)).

The opinions of Defendants’ expert to the contrary are unpersuasive. *See* Dkt. No. 98, Ex. 6, May 12, 2023 Madisetti Decl. at ¶¶ 82–86. Also, the *Dow Chemical* case cited by Defendants did not relate to antecedent basis and is inapplicable. *See Dow Chem. Co. v. Nova Chems. Corp. (Can.)*, 803 F.3d 620 (Fed. Cir. 2015) (finding indefiniteness as to “a slope of strain hardening coefficient greater than or equal to 1.3”).

The Court therefore hereby expressly rejects Defendants’ indefiniteness argument. Defendants do not present any alternative proposed construction, and no further construction is necessary. The Court accordingly hereby construes **“the electronic device”** and **“the device inputs”** to have their **plain meaning**.

K. “the communication interface”

“the communication interface” (’538 Patent, Claim 25)	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
Not Indefinite, Plain and Ordinary Meaning	Indefinite

Dkt. No. 80, Ex. 1 at 9; *id.*, Ex. 2 at 9; Dkt. No. 110, App’x A at 3.

Shortly before the start of the August 8, 2023 hearing, the Court provided the parties with its preliminary construction that this term has its plain and ordinary meaning.

(1) The Parties’ Positions

Plaintiff argues that this term is not indefinite for the same reasons as “the electronic device” and “the device inputs,” which are addressed above. Dkt. No. 103, Ex. A at 24.

Defendants respond that “the antecedent basis for ‘the communication interface’ is unclear because the claim is directed to ‘[a] non-transitory, computer-readable medium,’ not an electronic device,” and “[t]he lack of an antecedent basis is fatal to this claim because it is unclear how the computer-readable medium (e.g., a ‘disk, hard drive, or other storage device’) would relate to such a ‘communication interface.’” Dkt. No. 104 at 23 (citation omitted).

Plaintiff replies as to this term by referring again to its arguments as to “the electronic device” and “the device inputs,” which are addressed above. Dkt. No. 109 at 8.

At the August 8, 2023 hearing, Defendants presented oral arguments as to this term, and Plaintiff rested on its briefing.

(2) Analysis

Claim 25 of the ’538 Patent recites (emphasis added):

25. A non-transitory, computer-readable medium storing computer executable instructions that when executed by one or more processors, cause the one or more processors to:

accept a priming action of the electronic device by an identified valid device user, identified from the device inputs;

enable the electronic device for imminent performance of a payment operation responsive to the priming action of said valid user;

display a summary of online purchase information including the merchant information and the purchase amount; and,

display at least one selectable issuer payment account methods on a display; and,

receive a payment selection and approval authorization from said valid device user via a human input sensing at the device; and

responsive to receiving a valid user transaction payment approval, generate a device-specific limited-use payment information for use in place of at least a portion of said selected issuer payment account information on the device,

form a complete combined device payment information from a dynamically generated portion and a statically generated portions stored in a memory of the device,

wherein *the communication interface* is operable to transmit said complete device payment information from said electronic device to the recipient of the online purchase transaction; and

wherein further the processor is operable to receive an approval and a denial confirmation from an online payment facility of the complete device payment information, and cause the display to visually convey a status of the online purchase transaction.

Substantially the same analysis applies here as set forth above regarding the term “the electronic device.” Although “the communication interface” is introduced by the definite article, “the,” which typically refers back to an antecedent, the claim is reasonably clear even without any antecedent. *See Energizer Holdings*, 435 F.3d at 1369–70 (“When the meaning of the claim would reasonably be understood by persons of ordinary skill when read in light of the specification, the claim is not subject to invalidity upon departure from the protocol of ‘antecedent basis.’”) (discussing *Bose*, 274 F.3d at 1359).

The Court therefore hereby expressly rejects Defendants’ indefiniteness argument. Defendants do not present any alternative proposed construction, and no further construction is necessary. The Court accordingly hereby construes “**the communication interface**” to have its **plain meaning**.

L. “said dynamically generating said card validation value number”

“said dynamically generating said card validation value number” (’538 Patent, Claim 20)	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
Not Indefinite, Plain and Ordinary Meaning	Indefinite

Dkt. No. 80, Ex. 1 at 9; *id.*, Ex. 2 at 9; Dkt. No. 110, App’x A at 3.

The Court did not provide the parties with a preliminary construction for this term.

(1) The Parties’ Positions

Plaintiff argues that “the context of claim 20 makes it all abundantly clear,” and “Samsung’s expert fails to offer any actual technical expertise in connection with his opinion on this claim term and fails to consider the full context of the claim.” Dkt. No. 103, Ex. A at 25.

Defendants respond that “Claim 20 of the ’538 Patent is indefinite because the intrinsic record does not provide insight regarding the dynamic generation of a card validation value number,” and “there is no clear antecedent basis for this term.” Dkt. No. 104 at 23 & 24 (citation omitted). Defendant argues that “there is no antecedent for ‘said dynamically generating said card validation value number’ because the cryptogram number is generated to replace the card validation value, and the card validation value is ‘originated from the payment issuing authority,’ not generated, which makes the claim internally inconsistent.” *Id.* at 24 (citation omitted).

Plaintiff replies that “[t]here is only *one* dynamically generated number in the claim, and that is what the disputed ‘said’ language . . . references.” Dkt. No. 109 at 8.

At the August 8, 2023 hearing, the parties presented oral arguments as to this term.

(2) Analysis

As a threshold matter, the IPR proceedings cited by Plaintiff are of little, if any, relevance in the present claim construction proceedings. *See* Dkt. No. 98, Ex. 11, Nov. 22, 2022 Shamos Decl. at ¶¶ 213 & 251–52; *see, e.g., SEVEN Networks, LLC v. Apple Inc.*, No. 2:19-CV-115-JRG, 2020 WL 1536152, at *43 n.15 (E.D. Tex. Mar. 31, 2020).

Claim 20 of the '538 Patent depends from Claim 19, and Claims 19 and 20 recite (emphasis added):

19. A method of performing an online payment transaction, the method comprising:

receiving an input signal at an electronic device, the input signal corresponding to a request for payment of an online payment transaction by said electronic device, via a wireless interface of the electronic device;

a displaying of the payment request notification at a touch-screen display user-interface of the electronic device; and,

upon an authorizing of a valid device user, displaying at least one user-selectable payment account option, and requesting a user approval of payment, via the touch-screen display user-interface;

receiving, from a valid device user, a payment selection and authorization approval input on the electronic device;

generating at least one limited-use numbers at said electronic device, and using said limited-use number in place of at least a portion of selected account issuer payment information; and

combining said at least one limited-use numbers, with said selected account information, to form a complete payment information; and,

wherein the receiving of a user payment approval authorization through the user-interface of the electronic device, is comprising a displaying on said display at least a portion of information comprising: the payment request, the merchant, the amount, and the transaction information; and,

receiving a user input providing for at least one transaction authorization actions, from a set of actions including: approving a transaction, denying a transaction, selecting a user information, a payment amount adjustment, and selecting a transaction payment method; and,

on receiving said user payment approval authorization input, a transmitting by the wireless interface of the approved complete payment information for the online transaction.

20. The method of claim 19, further comprising:

dynamically generating a cryptogram number for use by the electronic device in place of a card validation value originated from the payment issuing

authority, and wherein dynamically generating the cryptogram number comprises cryptographically combining a device transaction sequence counter count, a user information, a payment account number, information and secrets known to a payment processing authority; and

wherein further, *said dynamically generating said card validation value number* results in a one-time limited-use payment information, on incrementing the device transaction sequence counter count on each transaction payment, and said device combining said current transaction sequence count at the instant of generating said cryptogram number.

Plaintiff argues that “said dynamically generating said card validation value number” in the second limitation of Claim 20 refers back to “dynamically generating a cryptogram number” in the first limitation of Claim 20, but the first limitation recites “dynamically generating a cryptogram number for use by the electronic device *in place of a card validation value*.” Also, the first limitation recites that the card validation value was “originated from the payment issuing authority,” not generated. Plaintiff’s interpretation is therefore inconsistent with the claim language itself.

Plaintiff argues that the patentee intended the reference to “said card validation value” to refer to the cryptogram that is recited as being for use “in place of a card validation value,” but to whatever extent such a reading might be plausible it is nonetheless not reasonably clear. In other words, Plaintiff’s interpretation is simply too great of an analytical leap under the *Nautilus* standard. The opinions of Defendants’ expert are further persuasive in this regard. *See* Dkt. No. 98, Ex. 6, May 12, 2023 Madisetti Decl. at ¶ 88.

The claim thus fails to “inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus*, 134 S. Ct. at 2129.

The Court therefore finds that **“said dynamically generating said card validation value number” in Claim 20 of the ’538 Patent is indefinite.**

M. “said selected account information”

“said selected account information” (’538 Patent, Claim 19)	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
Not Indefinite, Plain and Ordinary Meaning	Indefinite

Dkt. No. 80, Ex. 1 at 10; *id.*, Ex. 2 at 10; Dkt. No. 110, App’x A at 3.

Shortly before the start of the August 8, 2023 hearing, the Court provided the parties with its preliminary construction that this term has its plain and ordinary meaning.

(1) The Parties’ Positions

Plaintiff argues that there is no logical impossibility because “any selected account has issuer payment information associated with it, as well as ‘other user information’ used in a transaction.” Dkt. No. 103, Ex. A at 28; *see id.* at 27–28.

Defendants respond that “[i]f the antecedent basis for ‘said selected account information’ . . . is ‘selected account issuer payment information’ . . . , as CardWare contends, the claim is illogical.” Dkt. No. 104 at 26 (citation omitted).

Plaintiff replies that “[i]t appears undisputed that ‘account information’ includes both ‘payment information’ such as an account number or expiration date, as well as personal/user information, such as a ‘username’ or ‘email address,’” and, for example, “[t]here is nothing indefinite about combining a limited-use number with an e-mail address to form complete payment information.” Dkt. No. 109 at 9.

At the August 8, 2023 hearing, the parties presented oral arguments as to this term.

(2) Analysis

Claim 19 of the ’538 Patent recites (emphasis added):

19. A method of performing an online payment transaction, the method comprising:

receiving an input signal at an electronic device, the input signal corresponding to a request for payment of an online payment transaction by said electronic device, via a wireless interface of the electronic device;

a displaying of the payment request notification at a touch-screen display user-interface of the electronic device; and,

upon an authorizing of a valid device user, displaying at least one user-selectable payment account option, and requesting a user approval of payment, via the touch-screen display user-interface;

receiving, from a valid device user, a payment selection and authorization approval input on the electronic device;

generating at least one limited-use numbers at said electronic device, and using said limited-use number in place of at least a portion of *selected account issuer payment information*; and

combining said at least one limited-use numbers, with *said selected account information*, to form a complete payment information; and,

wherein the receiving of a user payment approval authorization through the user-interface of the electronic device, is comprising a displaying on said display at least a portion of information comprising: the payment request, the merchant, the amount, and the transaction information; and,

receiving a user input providing for at least one transaction authorization actions, from a set of actions including: approving a transaction, denying a transaction, selecting a user information, a payment amount adjustment, and selecting a transaction payment method; and,

on receiving said user payment approval authorization input, a transmitting by the wireless interface of the approved complete payment information for the online transaction.

On the face of the claim, the antecedent basis for “said selected account information” is the “selected account issuer payment information” recited in the preceding limitation. Alternatively, at a minimum, it is reasonably clear that this antecedent basis relationship is implicit. *See Energizer*, 435 F.3d at 1371 (holding that “an anode gel comprised of zinc as the active anode component” provided implicit antecedent basis for “said zinc anode”); *see also Ex Parte Porter*, 25 U.S.P.Q. 2d (BNA) 1144, 1145 (B.P.A.I. 1992) (“The term ‘the controlled fluid’ . . . finds reasonable antecedent basis in the previously recited ‘controlled stream of fluid’”); *Fisher-Price, Inc. v. Graco Children’s Prods.*, 154 F. App’x 903, 909 (Fed. Cir. 2005)

(“[a] claim is not invalid for indefiniteness if its antecedent basis is present by implication”) (citations omitted).

The disputed limitation of “combining said at least one limited-use numbers[] with said selected account information” does not give rise to any inconsistency when “selected account issuer payment information” is identified as the antecedent basis for “said selected account information.” First, the claim recites merely “using said limited-use number in place of *at least a portion of* selected account issuer payment information.” Second, the specification discloses:

At step 286 the multi-function electronic device is configured according to account *information* associated with the selected account, which may include an account number, an expiration date, and *other user information associated with the account (e.g. a username, PIN, password, email address, etc.)*. At step 288 the planar coil of the multi-function electronic device is encoded with a limited-duration payment number that is associated with the selected account. The limited-duration payment number is able to be generated according to the selected account, a timestamp, a transaction amount, an indicated merchant, user key or secrets, on-card unique hardware secrets, payment authority key or secrets, user input from the card interface, and other information associated with the transaction.

’538 Patent at 7:12–25 (emphasis added); *see id.* at 12:28–53 (“the [online] transaction is able to include information regarding a user account, such as an email address of the user”).

The specification thus discloses that “information” is broader than just numbers (such as account number and expiration date) and can include “other user information associated with the account,” such as username and password. *See id.* 7:12–25. Defendants do not show that “account issuer payment information” is limited to numbers such as account number and expiration date, and the opinions of Defendants’ expert are unpersuasive. *See* Dkt. No. 98, Ex. 6, May 12, 2023 Madisetti Decl. at ¶¶ 97–102. No internal inconsistency is apparent.

The Court therefore hereby expressly rejects Defendants’ indefiniteness argument. Defendants present no alternative proposed construction, and no further construction is

necessary. The Court accordingly hereby construes “**said selected account information**” to have its **plain meaning**.

N. “said limited-use number”

“said limited-use number” (’538 Patent, Claim 21)	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
Not Indefinite, Plain and Ordinary Meaning	Indefinite

Dkt. No. 80, Ex. 1 at 10; *id.*, Ex. 2 at 27; Dkt. No. 110, App’x A at 3.

Shortly before the start of the August 8, 2023 hearing, the Court provided the parties with its preliminary construction that this term has its plain and ordinary meaning.

(1) The Parties’ Positions

Plaintiff argues that the recital of “limited use numbers,” plural, in independent Claim 19 (from which the claim here at issue depends) “is just to emphasize that it can be more than one” and does not give rise to any inconsistency because Claim 19 recites “*at least one* limited-use numbers.” Dkt. No. 103, Ex. A at 29.

Defendants respond that “Claim 21 of the ’538 Patent is indefinite because it is unclear whether the claim encompasses one limited-use number, or multiple such numbers,” and “[d]ue to the inconsistency in referring back to the initial recitation, it is not clear whether the claims require one or multiple limited-use number.” Dkt. No. 104 at 27 & 29 (citations omitted).

Plaintiff replies that “[t]he scope of the term ‘at least one limited use numbers’ describes a universe ranging from one to some higher (plural) number,” and “Samsung does not identify any case law requiring subsequent anaphoric phrases to be consistent in using the singular or the plural to refer [to] an antecedent claim element.” Dkt. No. 109 at 9–10.

At the August 8, 2023 hearing, the parties presented oral arguments as to this term.

(2) Analysis

Claim 21 of the '538 Patent depends from Claim 21, and Claims 19 and 21 recite (emphasis added):

19. A method of performing an online payment transaction, the method comprising:

receiving an input signal at an electronic device, the input signal corresponding to a request for payment of an online payment transaction by said electronic device, via a wireless interface of the electronic device;

a displaying of the payment request notification at a touch-screen display user-interface of the electronic device; and,

upon an authorizing of a valid device user, displaying at least one user-selectable payment account option, and requesting a user approval of payment, via the touch-screen display user-interface;

receiving, from a valid device user, a payment selection and authorization approval input on the electronic device;

generating at least one limited-use numbers at said electronic device, and using *said limited-use number* in place of at least a portion of selected account issuer payment information; and

combining said at least one limited-use numbers, with said selected account information, to form a complete payment information; and,

wherein the receiving of a user payment approval authorization through the user-interface of the electronic device, is comprising a displaying on said display at least a portion of information comprising: the payment request, the merchant, the amount, and the transaction information; and,

receiving a user input providing for at least one transaction authorization actions, from a set of actions including: approving a transaction, denying a transaction, selecting a user information, a payment amount adjustment, and selecting a transaction payment method; and,

on receiving said user payment approval authorization input, a transmitting by the wireless interface of the approved complete payment information for the online transaction.

* * *

21. The method of claim 19, wherein at least a portion of *said limited-use number* comprises a static device account number,

and wherein the static device account number is of a limited scope of valid use to a specific device,

and wherein further a payment processing authority provides said device account number unique for the specific electronic device, in place of payment

issuer information, in performing payment transactions by the electronic device, and further comprising:

performing a payment transaction by the electronic device including the dynamically generated limited-use number;

combining the dynamically-generated number and the static device account number within a device-generated complete payment information; and

conveying said device-generated complete payment information, in place of a selected payment issuer information, when the device is performing payment transactions; and

wherein a using of said static device account number without a valid dynamically generated limited-use number, shall be deniable as invalid, and outside a valid scope of device-limited usage.

On its face, the recital of “generating at least one limited-use numbers” in Claim 19 encompasses both the singular and the plural. The subsequent recitals of “said limited-use number” in Claims 19 and 21 refer back to this antecedent in Claim 19 that encompasses both the singular and the plural. There is no inconsistency. The *Baldwin* case cited by Plaintiff, even if distinguishable to some degree as Defendants argue, is at least somewhat analogous and is further persuasive. *See Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, 512 F.3d 1338, 1343 (Fed. Cir. 2008) (“In grammatical terms, the instances of ‘said fabric roll’ in the claim are anaphoric phrases, referring to the initial antecedent phrase. Because the initial phrase carries no definitive numerosity, the anaphoric phrases do not alter that meaning in the slightest.”). The opinions of Defendants’ expert do not compel otherwise. Dkt. No. 98, Ex. 6, May 12, 2023 Madisetti Decl. at ¶¶ 103–105.

The Court therefore hereby expressly rejects Defendants’ indefiniteness argument. Defendants present no alternative proposed construction, and no further construction is necessary. The Court accordingly hereby construes “**said limited-use number**” to have its **plain meaning**.

O. “a statically generated portions”

“a statically generated portions” (’538 Patent, Claim 25)	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
Not Indefinite, Plain and Ordinary Meaning	Indefinite

Dkt. No. 80, Ex. 1 at 10; *id.*, Ex. 2 at 11; Dkt. No. 110, App’x A at 3.

Shortly before the start of the August 8, 2023 hearing, the Court provided the parties with the following preliminary construction: “one or more statically generated portions.”

(1) The Parties’ Positions

Plaintiff argues that “[w]hen read in context of the surrounding claim language, including the element ‘a dynamically generated portion’ in the same limitation, it is obvious that the inclusion of ‘s’ in ‘portions’ was a typographical error.” Dkt. No. 103, Ex. A at 30. Plaintiff further argues that “[e]ven including the error, however, there is no substantive difference in claim scope” because “the indefinite articles ‘a’ or ‘an’ in a patent claim carry the meaning of ‘one or more.’” *Id.* (citation and internal quotation marks omitted).

Defendants respond that “[t]he claim term is indefinite because it is unclear if the claim requires one statically generated portion or two or more statically generated portions.” Dkt. No. 104 at 29 (citation omitted). Defendant argues that “even if there were a typographical error, it is not easily understood from the claims and specification because there are two plausible readings.” *Id.* at 30.

Plaintiff replies that “the error is grammatical and plain on the face of the patent, and CardWare seeks no alternative construction.” Dkt. No. 109 at 10.

At the August 8, 2023 hearing, the parties presented oral arguments as to this term.

(2) Analysis

Claim 25 of the '538 Patent recites (emphasis added):

25. A non-transitory, computer-readable medium storing computer executable instructions that when executed by one or more processors, cause the one or more processors to:

- accept a priming action of the electronic device by an identified valid device user, identified from the device inputs;

- enable the electronic device for imminent performance of a payment operation responsive to the priming action of said valid user;

- display a summary of online purchase information including the merchant information and the purchase amount; and,

- display at least one selectable issuer payment account methods on a display; and,

- receive a payment selection and approval authorization from said valid device user via a human input sensing at the device; and

- responsive to receiving a valid user transaction payment approval, generate a device-specific limited-use payment information for use in place of at least a portion of said selected issuer payment account information on the device,

- form a complete combined device payment information from a dynamically generated portion and *a statically generated portions* stored in a memory of the device,

- wherein the communication interface is operable to transmit said complete device payment information from said electronic device to the recipient of the online purchase transaction; and

- wherein further the processor is operable to receive an approval and a denial confirmation from an online payment facility of the complete device payment information, and cause the display to visually convey a status of the online purchase transaction.

Defendants argue that this disputed term is ambiguous as to whether it refers to one or to at least two. Defendants cite disclosures in the specification that payment information could include a single static portion (“the static portion of the payment number,” ’538 Patent at 11:9–12) or could include two static portions (“the first four and last four digits of the payment number are able to be fixed,” *id.* at 10:54–58). *See Media Rights Techs., Inc. v. Cap. One Fin. Corp.*, 800 F.3d 1366, 1371 (Fed. Cir. 2015) (discussing ambiguity between two potential interpretations).

As a matter of patent claim drafting, however, “a” simply means “one or more.” *Baldwin*, 512 F.3d at 1342. Nothing in Defendants’ above-cited disclosures warrants limiting the claim to two or more statically generated portions. Further, Defendants cite no prosecution history that would suggest a different interpretation.

The Court therefore rejects Defendants’ indefiniteness argument and hereby construes “a statically generated portions” to mean “one or more statically generated portions.”

V. CONCLUSION

The Court adopts the constructions set forth in this opinion for the disputed terms of the patent-in-suit.

The parties are ordered that they may not refer, directly or indirectly, to each other’s claim construction positions in the presence of the jury. Likewise, the parties are ordered to refrain from mentioning any portion of this opinion, other than the actual definitions adopted by the Court, in the presence of the jury. Any reference to claim construction proceedings is limited to informing the jury of the definitions adopted by the Court.

SIGNED this 22nd day of August, 2023.


ROY S. PAYNE
UNITED STATES MAGISTRATE JUDGE